[Chem. Lett., **1993**, 307-310] [Lab. of Pharm. Analytical Chemistry]

On-line HPLC Determination of Enzymatic Activity of Alkaline Phosphatase in Natural Water Using Spectrofluorometric Detection.

YUKIHIRO ESAKA*, AKIO HIROSE, MICHIRU OHTA, HIROKI HARAGUCHI

Fundamental studies on the on-line HPLC detection of enzymatic activity of alkaline phosphatase (APase) has been examined, where 4-methylumbelliferyl phosphate was used as a substrate. The technique developed was applied to detection of APase in natural water.

[Chem. Lett., **1993**, 1013-1016] [Lab. of Pharm. Analytical Chemistry]

Dual-Times Detection System for On-line Assay of Enzymatic Activity Based on Valve-Switching Technique Using Size Exclusion Chromatography.

YUKIHIRO ESAKA*, REIJI IHARA, AKIO HIROSE, HIROKI HARAGUCHI

A dual-times detection system in size exclusion chromatography was developed for carboxypeptidase A assay. In the system the enzymatic activity was detected 2 times by circulating the sample solution (mobile phase) in a reaction tube through a fluorescence detector.

[Int. J. Pharm., **89**, 9-17 (1993)] [Lab. of Pharm. Engineering]

Uniform and improved bioavailability of newly developed rapid and sustained release suspensions of ibuprofen microspheres.

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New rapid and sustained release suspensions of ibuprofen microspheres were investigated in in vitro release and in vivo drug absorption studies. The drug release rate from the suspensions was controlled by the particle size, drug-polymer ratio and internal porosity of microspheres. The rapid release suspension resulted in significantly low intersubject variation in bioavailability, demonstrating the same rate and extent of drug absorption as the conventional marketed ibuprofen granule.